Multivariate school travel demand regression based on trip attraction

Abstract

Since primary school trips usually start from home, attention by many scholars have been focused on the home end for data gathering. Thereafter category analysis has often been relied upon when predicting school travel demands. In this paper, school end was relied on for data gathering and multivariate regression for future travel demand prediction. 9859 pupils were surveyed by way of questionnaires at 21 primary schools. The town was divided into 5 zones. The study was carried out in Skudai Town, Malaysia. Based on the hypothesis that the number of primary school trip ends are expected to be the same because school trips are fixed, the choice of trip end would have inconsequential effect on the outcome. The study compared empirical data for home and school trip end productions and attractions. Variance from both data results was insignificant, although some claims from home based family survey were found to be grossly exaggerated. Data from the school trip ends was relied on for travel demand prediction because of its completeness. Accessibility, trip attraction and trip production were then related to school trip rates under daylight and dry weather conditions. The paper concluded that, accessibility is an important parameter when predicting demand for future school trip rates.